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September 28, 2020

**VIA, ELECTRONIC FILING**The Honorable Jocelyn Boyd,  
Chief Clerk/Executive Director,  
Public Service Commission of South Carolina  
101 Executive Center Drive, Suite 100  
Columbia, South Carolina 29210

- Re:
- **Docket 2020-219-A** – Utility Integration Studies of Dominion Energy South Carolina, Incorporated (Pursuant to Commission Directive Order No. 2020-583)
  - **Docket 2020-220-A** – Utility Integration Studies of Duke Energy Carolinas, LLC (Pursuant to Commission Directive Order No. 2020-583)
  - **Docket 2020-221-A** – Utility Integration Studies of Duke Energy Progress, LLC (Pursuant to Commission Directive Order No. 2020-583)
  - **Docket 2019-184-E**

Ms. Boyd:

These Comments are provided on behalf of the South Carolina Solar Business Alliance, Inc., (“SBA”), in compliance with the Clerk’s Notice of Virtual Forum, requiring written comments to be e-filed with this Commission no later than Monday, September 28, 2020. The SBA is a Public Benefit Non-Profit Corporation organized for the purpose of promoting and advocating public policy positions supportive of solar power generation in South Carolina. SBA’s Trade Members are engaged in solar energy and energy storage development, engineering, procurement and construction in South Carolina and across the Nation and include contractors, professional service firms, equipment distributors and equipment manufacturers.

I respectfully request that this Commission consider these Comments in the above-referenced Dockets.

**Overview**

In anticipation of the increasing role renewable energy and emerging energy technologies will play in meeting energy demand in South Carolina, the General Assembly adopted S.C. Code Section 58-37-60 as part of South Carolina Act No. 62 of 2019 (“Act 62”). This statutory authorization provides for a Commission and ORS led study (the “Integration Study”) that must “evaluate what is required for electrical utilities to integrate increased levels of renewable energy and emerging energy technologies while maintaining economic, reliable, and safe operation of the electricity grid in a manner consistent with the public interest.” Section 58-37-60(A).

This Commission has also ordered that an integration study be conducted pursuant to Section 58-37-60 for purposes of creating a publicly reviewed evaluation of solar integration in Dominion's balancing area prior to considering an updated solar integration study and cost calculation in Dominion's next avoided cost proceeding. Order No. 2020-244 (Mar. 24, 2020) at 5-6, 14.

Similarly, this Commission approved a settlement agreement in Duke's most recent avoided cost proceedings that stated, in part, that "Duke shall submit the (previously conducted Astrape integration) study methodology and inputs to an independent technical review and include the results of that review and any revisions in its initial filing in the next avoided cost proceeding. To the maximum extent practicable the independent review of the study methodology shall take into consideration the South Carolina Integration Study called for by S.C. Code Ann. § 58-37-60." Order No. 2019-881(A) (Jan. 2, 2020) at 119-120.

Since the adoption of Act 62, Dominion Energy South Carolina ("DESC"), Duke Energy Carolinas, and Duke Energy Progress (together "Duke") have publicly announced 100% net-zero carbon targets for the year 2050.<sup>1,2</sup> In furtherance of its net-zero carbon ambitions, Duke has also initiated a Carbon-Free Integration Study in partnership with the U.S. Department of Energy's National Renewable Energy Lab ("NREL").<sup>3</sup>

Therefore, it is timely and appropriate that this Commission begin the process of preparing for the decarbonization of our electricity grid through deliberate study and consideration of the requirements necessary for the grid integration of significant levels of renewable and emerging energy technologies. To that end, SBA submits the following recommendations on the general process and scope of work for the Integration Study to effectuate the legislative intent of Act 62 and the requirements of recent Commission orders on this topic.

### Process

The following recommendations outline key considerations for conducting a value-added integration study meant to inform future proceedings, such as avoided cost and integrated resource planning dockets, within which more granular analyses of integration related issues will be evaluated and ruled on by this Commission. SBA envisions the final product resulting from this integration study will take the form of a whitepaper that will provide a common foundation for evaluating the methodology, scope, and inputs of prospective integration related analyses presented to this Commission by utilities, ORS, and stakeholders, as well as set expectations and recommendations for the type and scope of additional studies that should be conducted in furtherance of increased clean energy deployment.

Further, Act 62 requires that the results of this Integration Study be reported to the General Assembly. Therefore, a discussion of policy related issues involving renewable and emerging technology integration should also be included in the whitepaper.

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<sup>1</sup> <https://news.dominionenergy.com/2020-02-11-Dominion-Energy-Sets-New-Goal-of-Net-Zero-Emissions-by-2050>

<sup>2</sup> <https://news.duke-energy.com/releases/duke-energy-aims-to-achieve-net-zero-carbon-emissions-by-2050>

<sup>3</sup> <https://www.nrel.gov/grid/carbon-free-integration-study.html>

1. Use of a qualified, independent consultant – Similar to the selection and use of Power Advisory in the recent avoided cost proceedings and consistent with the authorization set forth in Section 58-37-60(C), the Commission should retain a qualified, independent consultant for support in conducting and drafting of the integration study.
2. Stakeholder engagement and comment – Consistent with the requirements of Section 58-37-60, the Commission should provide additional opportunity for interested parties to provide comprehensive input on the appropriate scope of the study and also to provide comments on a draft report before it is finalized. This should include at least one stakeholder workshop. Transparency of models, inputs, assumptions, and results should be a foundational element to the integration study.
3. Clean Energy Integration Best Practices – The final product from this integration study should be a high level but comprehensive whitepaper intended to provide a common foundation for considering and evaluating clean energy integration in future regulatory proceedings, including recommendations regarding potential future studies and stakeholder processes.<sup>4</sup>
4. Schedule – Given the abbreviated timeline between now and the 2021 avoided cost proceedings, SBA recommends that this Commission immediately begin the process of selecting a consultant and finalizing a schedule for soliciting formal stakeholder input on a final scope of work and timeline for completion of the integration study.

### Scope of Work

The following topics would be appropriate to include in an integration study pursuant to Act 62, which would provide guidance to the Commission and to stakeholders regarding the appropriate scope and range of issues that utilities in South Carolina should include when assessing the integration of renewable energy resources onto the grid:

1. Flexibility of the utility's existing generation fleet – The whitepaper should provide a framework for assessing existing fleet flexibility, including ramping; load-following; and opportunities to increase system flexibility with the existing fleet and in resource planning. The whitepaper should also discuss an evaluation of curtailment expectations and practices – both of variable and dispatchable resources – and benefits of establishing dispatchability of solar or other variable resources.
2. Incorporation and optimization of energy storage technologies – The whitepaper should provide a framework for analysis of existing energy storage on the utility's system and opportunities to expand and further optimize energy storage technologies as part of renewable energy integration efforts and as a source of firm capacity.

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<sup>4</sup> SBA recommends that this Commission review the Michigan Power Grid initiative as an example of a multi-year, iterative approach to a comprehensive clean energy grid integration study and stakeholder process: [https://www.michigan.gov/mpsc/0,9535,7-395-93307\\_93312\\_93593---,00.html](https://www.michigan.gov/mpsc/0,9535,7-395-93307_93312_93593---,00.html)

3. Transmission and distribution system capacity and needs – The whitepaper should provide a framework for assessing existing transmission and distribution system capacity and evaluate the need for additional or expanded transmission and/or distribution system infrastructure and capacity, as well as non-wires alternatives to the construction of new transmission and/or distribution system infrastructure.
4. Maintaining necessary system reliability and assessing reserve requirements – The whitepaper should provide a clear set of metrics for assessing reliability requirements, including a clear assessment of types and quantities of required reserves and grid services.
5. Interconnection to neighboring utilities – The whitepaper should provide a framework for addressing the utility's interconnection to neighboring utilities and proximity to wholesale electricity markets. This analysis could include the utility's physical and contractual access to off-system energy, capacity, and/or ancillary services; access to and availability of reserve-sharing mechanisms; and potential impacts and benefits to renewable energy integration of markets structures such as an Energy Imbalance Market or other ancillary services markets. The whitepaper should clearly articulate the benefits and costs of individual utility balancing of variable renewables versus balancing within a broader regional structure.
6. Application of demand-side, load-modifying, and aggregated resources: – The whitepaper should provide a framework for assessing the potential for demand-side and aggregated resources, including existing or expanded demand-side management and energy efficiency customer programs, interruptible rates, and aggregated distributed resources to assist in the integration of renewables. This analysis would include discussion of optimal rate designs and other mechanisms to encourage customer participation in such programs.
7. Determination and assignment of integration-related costs – The whitepaper should provide a framework for addressing how any costs associated with the integration of renewables would be determined and how such costs should be assigned between the utility, customers, and market participants, considering the utility's and the jurisdiction's short-term and long-term policy goals, as well as anticipated low-carbon compliance requirements.
8. Evaluation. The whitepaper should provide a framework to evaluate integration studies carried out by utilities. That evaluation framework should ensure that utility studies use industry-recognized, state-of-the-art modeling software that properly addresses key issues related to variable renewable integration, including the capability of simulating sub-hourly operations, sophisticated reserve requirements, co-optimization of energy and reserves, and detailed storage modeling. The evaluation framework should also address transparency on methods, tools, and assumptions within utility studies to allow evaluation against the principles and recommendations of the whitepaper.

9. Policy Discussion. The whitepaper should provide a discussion around potential policy related considerations for the integration of renewable and emerging energy technologies that fall outside of the regulatory authority of this Commission, such as creation of or participation in regional markets.

The SBA appreciates the opportunity to comment on this matter, and these Comments are,

Respectfully Submitted,  
**WHITT LAW FIRM, LLC**

/s/Richard L. Whitt  
Richard L. Whitt,  
As Counsel for the South Carolina Solar  
Business Alliance, Inc.

cc: All parties of record in Docket 2019-184-E *via electronic mail*, e-filed in Dockets 2020-219-A, 2020-220-A and 2020-221-A